Project: 6009-004 Price Creek Water Quality and Erosion Control Project
Project Sponsors: Iowa and Benton County Soil and Water Conservation Districts

Length of Project: January 1, 2007 – December 31, 2009

Financial Accountability

	Summary: Watershed Improvement Review Board Funds			
Grant Agreement Budget Line Item	**Total Funds Approved**	**Total Funds Approved As Amended($)**	**Total Funds Expended ($)**	**Available Funds ($)**
Grade Stabilization Structures	30,000	18,500	0	18,500
Grassed Waterways	21,450	42,275	38,735.57	3,539.43
Terraces	5,500	4,459	1,201.25	3,257.75
Water & Sediment Control Basins *	14,125	5,841	7,875.38	(2,034.38)
Totals	71,075	71,075	47,812.20	23,262.80
Difference				23,262.80

* See attached budget amendment request #3 (Exceeds 10% max. deviation)

Grade Stabilization Structures: The four structures completed were ponds and served a dual purpose of gully erosion control and livestock watering. With exclusion fence, the livestock use made the practice eligible for WSPF funding allowing for the districts to extend the WIRB funds to other projects.

Grassed Waterways: Following the heavy rains in 2007 and 2008, the need for grassed waterways became more apparent and resulted in greater than expected landowner signups.

Water and Sediment Control Basins: The EQIP cost-share rate in many cases was 60-80% and allowing the districts to stretch the WIRB dollars further.

Unspent Balance: Two years and 4 construction seasons of bad weather made it hard to get a contractor. With time running short on this agreement, the district was afforded the opportunity to help landowners unable to complete their WIRB projects and they were switched to WSPF funds.

Summary: Total Project Funding

Funding Source	Cash		In-Kind Contributions		Total	
	Approved Application Budget ($)	Actual ($)	Approved Application Budget ($)	Actual ($)	Approved Application Budget ($)	Actual ($)
WIRB	71,075	47,812.20	0	0	71,075	47,812.20
WSPF/ WPF/319 *	279,115	246,110.47	0	0	279,115	246,110.47
EQIP/ IFIP/CRP	176,890	189,484.94	0	0	176,890	189,484.94
SWCDs & NRCS *	0	0	18,000	18,000	18,000	18,000
Landowner	113,637	160,165.69	0	0	113,637	160,165.69
Other (EWP)	0	144,250	0	0	0	144,250
Matching	0	0	0	48,083	0	48,083
Totals	640,717	787,823.30	18,000	66,083	658,717	853,906.30

* The discrepancy between the WIRB ledger is from 319/WPF salary/administrative funds ($89,543.06) and NRCS vehicle/computer ($18,000)

Watershed Improvement Fund contribution: Approved application budget: 11 %
Actual: 5.6 %

Though WIRB was an underwelming 5.6% of the project, in all cases it was the "piggy-backing" of WIRB cost-share that made the EQIP and IFIP possible. The piggy-back of the three programs together represents 24% of the overall budget.

The WIRB amount was not entirely obligated due to the time constraints of this agreement. The "Other" funding source category represents a streambank stabilization project along Price Creek that was funded after the 2008 floods, utilizing the NRCS –Emergency Watershed Protection program.

Environmental Accountability

The 5 major goals for the Price Creek watershed are:

Reduce livestock access on 50% of the Price Creek corridor by:

- Providing alternative watering sources
- Restrict stream access on critically eroding stream banks
- Improve grazing efficiency
- Hold educational workshops/field days on grazing systems including demonstrations on fencing & watering systems

Progress: 20%, refer to the practices and activities table, pg.4

Reduce nutrient loading by breaking the delivery network on 1500 acres on the most critically eroding areas identified in the watershed by:

- Develop manure management planning systems
- Install buffers to stop nutrient and sediment movement
- Implement manure testing program and hold ISUE/NRCS workshops to improve manure management and application methods
- Controlling soil loss through use of management and structural BMPs

Progress: 1,314 acres, refer to the practices and activities table, pg.4

Reduce sediment loading by reducing soil loss on 1500 acres of the most critical farmland and 200 feet of stream bank by:

- Prioritize erosion control practices to the more critical areas identified
- Reduce sediment delivery, Stabilize streambanks
- Treat critical areas with heavy use protection and critical area seedings
- Hold a streambank stabilization workshop to demonstrate various options

Progress: 1,280 acres and 290 feet, refer to the practices and activities table, pg.4

Monitor nutrient and bacterial levels in Price Creek surface waters by continuing and expanding the IOWATER monitoring of surface water in the watershed
See the water monitoring summary pg.5, and attachments

Test private wells and raise awareness and interest in updating non-code septic systems by:

- Free testing of private wells through County Public Health Departments
- Provide all rural landowners information on septic system options and available funding
- Hold at least two information & educational meetings on septic systems

Progress: testing and funding programs offered at meetings, brochures and newsletters

Practices and Activities:

Summary: WIRB Practices and Activities

Practice or Activity	Unit	Approved Application Goal	Approved Goal As Amended	Accomplishments	Percent Completion
Tours	No.	2		1	50
Workshops	No.	3		3	100
Demo Sites	No.	3		3	100
Informational meeting	No.	3		3	100
Newsletters / Media Articles	No.	6		10	165
WIRB Practices					
Grade Stabilization Structures	No.	4	3	4	133
Grassed Waterways	Ac.	13	25.6	35.1	137
Terraces	Ft.	2,000	1,600	2,175	136
Water and Sediment Control Basins	No.	10	4	26	650
Other Practices					
Livestock Ponds *	No.	4	-	2	50
Pump Plant	No.	1	-	1	100
Well for Livestock	No.	1	-	1	100
Watering Facility	No.	8	-	5	63
Pipeline	Ft.	500	-	2,512	502
Livestock Exclusion	Ac.	30	-	11	36
Fence	Ft.	10,000	-	8,332	83
Prescribed Grazing	Ac.	400	-	40	10
Critical Area Seeding	Ac.	20	-	3.5	18
Pasture / Hayland Planting	Ac.	120	-	30	25
Brush Management	Ac.	70	-	0	0
Heavy Use Protection	Ac.	3	-	0.2	7
Buffers	Ac.	50	-	18.2	36

* The reported ponds were also reported under grade stabilization as they address both resource concerns.

Practice Load Reductions:

The following table is from the WIRB ledger. The pre project total estimated sediment delivery in the watershed was 13,478 tons/year. The reductions from project BMPs equal 20%.

Pollutant	Cumulative Loading Reductions	
Sediment	2634	tons/year
Nitrogen	n/a	lbs./year
Phosphorus	3166	lbs./year
Other	n/a	units/year

Descriptions of tours, workshops and meetings:

- Project Kickoff Meeting 9/07 - *45 attended*
- Nutrient/Manure workshop 12/07 – *6 attended*
- Grazing workshop 2/08 – *20 attended*
- District Conservation Award Winner from Price Creek Watershed 11/07
- Pasture Walk / BMP Demo Site Tour 7/08 – *22 attended*
- Nutrient Management Field Day (Late Spring N & Fall Stalk tests) 9/08 – *10 attended*
- District Conservation Award Winner(s) from Price Creek Watershed 11/08
- Nutrient Workshop (Reports on Late Spring N & Fall Stalk tests) 1/09 – *1 attended*
- Basics of Well and Septic Systems Workshop 3/09 – *5 attended*
- Price Creek Landscape History Meeting 2/10 – *30 attended*

Attendance at educational events was mixed. Price Creek is somewhat underserved in terms of the level of SWCD interaction with producers in that part of the county. Therefore, the increased interaction through news media, letters and events is important. The kickoff meeting was well attended as has been field events. The early interaction undoubtedly improved the response from a technical assistance/cost share signup standpoint. Workshops and indoor meeting attendance was largely dependent on weather as they were held during winter months.

Water Quality Monitoring:

Eleven sites were monitored three times each year (spring, summer, fall) utilizing the IOWATER volunteer water monitoring program. These "Snapshot" sampling events currently gather data on eleven different parameters including: 1) water temperature 2) chloride 3) pH 4) nitrate 5) nitrite 6) dissolved oxygen 7) transparency and 8) orthophosphate. In addition to the IOWATER protocol, The University of Iowa Hygienic Lab analyzed samples for nitrogen, E. coli bacteria, and ammonia nitrogen.

Graphical summaries of Price Creek water monitoring results are attached. The statewide IDNR ambient monitoring program summary is also included for comparison. In terms of the Price Creek project goals, E. coli, transparency, ammonia and chloride are particularly important parameters. Per state of Iowa law, the geometric mean standard for E. coli is 126 CFU/100ml. Out of 116 E. coli samples from Price Creek, the State standard was met only 9% of the time.

There is not a State standard for transparency; however values of 41mg/L or greater are often grouped in the high quality tier by IOWATER. Of the 112 Price Creek transparency samples, 60% fell into the top tier. Ammonia was not tested as consistently as the other parameters. In terms of the ammonia samples taken by the Iowa DNR ambient monitoring program, the 75th percentile value is less than 0.1. In Price Creek 82% of samples were less than 0.1. Chloride is an indicator of human waste sources such as failed septic systems. The Iowa DNR ambient monitoring program's 90th percentile value is 42 mg/L. In Price Creek, more than 98% of the 111 chloride samples taken had values less than 50 mg/L.

A greater focus on bacteria sampling in the tributaries of Price Creek and additional computer modeling are the next elements of the water monitoring plan that will be included in the Watershed Management Plan, currently in development. The results will help to target smaller sub basins with BMPs (primarily livestock related) and verify their effectiveness.

Program Accountability / Challenges:

Public Apathy:
A portion of the town of Amana is located near the mouth of Price Creek. To build on the historical relationship between the two the SWCD's partnered with the Iowa Valley RC&D in 2009. With offices in Amana, the RC&D is a natural partner with staff very knowledgeable on local history. The February 2010 Landscape history program was the first in a series of outreach efforts highlighting the relationships that people have had to the creek.

Watershed Demographics:
A consistent message with clearly stated goals is important, however depending on background, people require various methods to motivate to an action. In 2009-10 the watershed coordinator was a participant in a education program facilitated by Agren to learn how to better engage absentee and women landowners. The materials and information attained will shape the future of the project by breaking down all landowners and operators into specific marketing groups tailored to their needs.

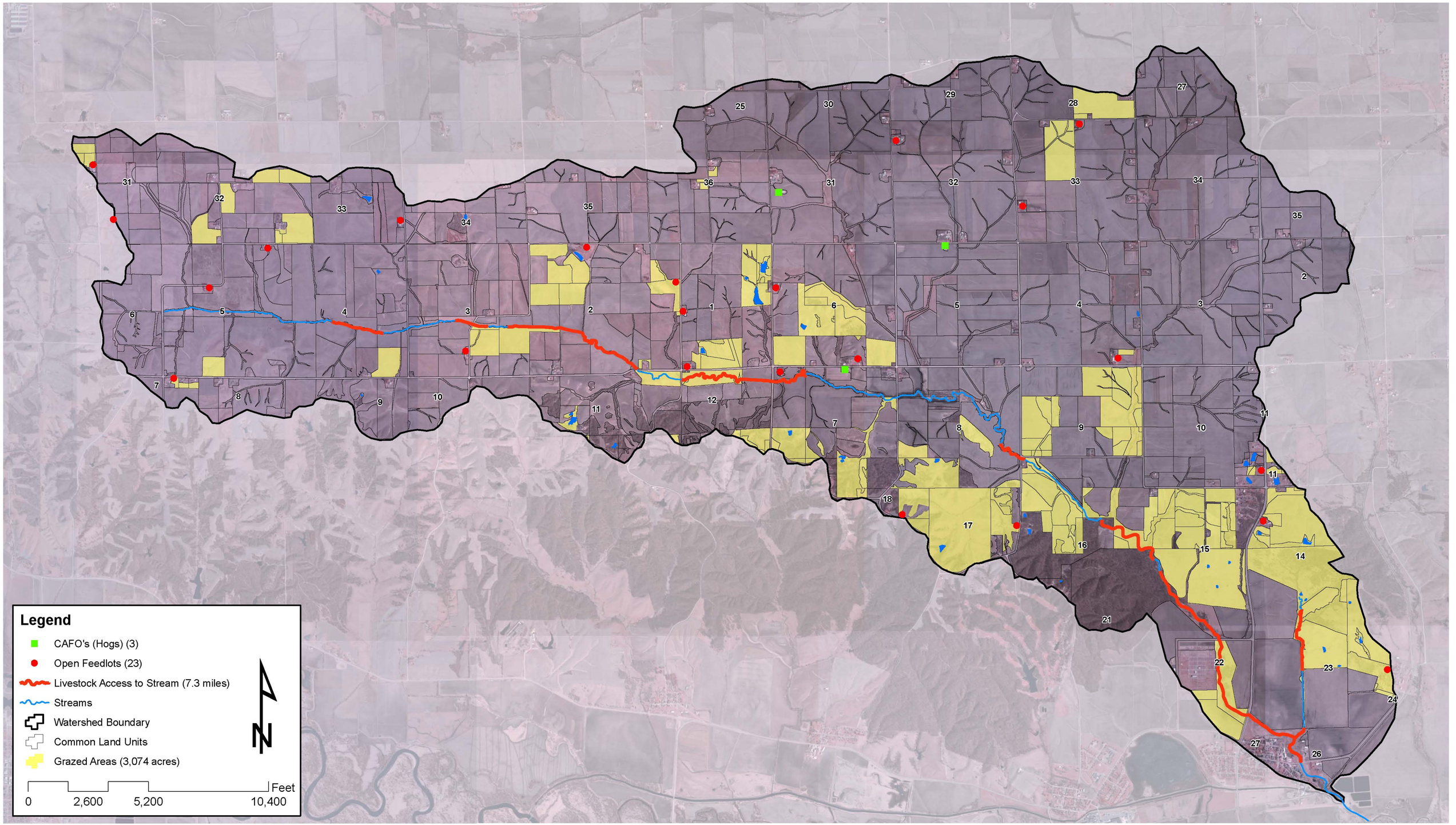
Long Term Solutions:
This project was challenged to spend the entire grant award on high priority land during the three year term of the contract because of weather and contractors. Fortunately, for this project, another watershed funding source was available to replace some of the lost funds. In addition, the SWCD's are currently finishing up a 319 funded Watershed Management Plan to help provide a framework to secure longer term funding sources including future WIRB applications.

Attachments:

Financial ledgers, maps, brochures / mailings, newsletters / articles, water monitoring data, and BMP photos

Price Creek Watershed- Benton & Iowa Counties

High Priority Areas (CAFOs, AFOs, Grazed Areas and Livestock Access to Stream)



Price Creek Watershed- Benton & Iowa Counties

High Priority Areas (Sediment Delivery & Streambank Stability)